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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/761,539	01/16/2001	William J. Dally	2789.2010-000	5876

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EXAMINER	
CHANG, RICHARD	
ART UNIT	**PAPER NUMBER**
2616	

DATE MAILED: 05/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/761,539	DALLY, WILLIAM J.	
	Examiner	Art Unit	
	Richard Chang	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02/02/2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *14-16, 18-19 and 21-26* is/are allowed.

6)☒ Claim(s) *1, 3-6, 8-13 and 27* is/are rejected.

7)☒ Claim(s) *7* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 March 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment and argument

1. Applicant's arguments and amendment filed on 02/06/2006, with respect to claims 1, 3-16, 18-19 and 21-27 have been fully considered but are moot in view of the new ground(s) of rejection. The previous indicated allowability of claims 2 (already canceled) and claim 15 had been withdrawn in last office action (11/29/2005).

2. Claims 2, 17 and 20 had been canceled.

3. Applicant appears to argue that the Examiner previously admitted the limitation of "the read address generator transforms a global frame counter to generate the read address" is not taught by the reference in earlier office action on 7/1/2005. However, after carefully reviewing and considering the following amendment filed on 12/14/2004, the examiner had withdrawn the previous indicated allowability in office action filed on 11/29/2005 because the limitation is suggested in reference US patent No. 6,674,752 ("Colizzi et al."). Colizzi et al. teach a method and apparatus of switch matrix using independent read and write memory access for time slot interchange such that the memory is nonontiguoualy addressed and space mapped by the predecoder by storing subframes to the random access memory is controlled by the write address control memory out of alignment with the global frame clock, in a received order and reading subframes from the random access memory is controlled by the read address control memory in interchanged order and aligned to the global frame clock. As such the limitation is met since memory addressing alignment scheme using counters is taught by Colizzi et al.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 3-6, 8-13 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over US patent No. 6,778,529 ("Field et al.") in view of US patent No. 6,674,752 ("Colizzi et al.").

Regarding claims 1 and 27, Field et al. teach a and method for a telecommunications synchronous switch node (time-slot interchanger) for interchanging the order of subframes of data (within an input data frame wherein each 125 microsecond frame period is divided into 256 subframes) comprising of

a global frame clock (a systems clock which is used to derive the 125 microsecond frame pulse for synchronization) (See Fig. 32, Col. 32, lines 12 - 26),

an interchange random access memory (switch memory 656) receiving the input data frame at an input (where the traffic may be directly received at the switch interface 650), out of alignment with the global frame clock (where the switch interface 650 provides the ingress TDM traffic storage independent of the global frame clock) (See 1Fig. 33, Col. 32, lines 27 - 62).

Field et al. teach substantially all the claimed invention but did not disclose expressly the particular application involving limitations of

"a write address generator which addresses the random access memory to write subframes, out of alignment with the global frame clock, in a received order"; and

"a read address generator which addresses the random access memory to read subframes in interchanged order and aligned to the global frame clock"

Colizzi et al. teach a method and apparatus of switch matrix using independent read and write memory access for time slot interchange such that the memory is nonontiguoualy addressed and space mapped by the predecoder by storing subframes to the random access memory is controlled by the write address control memory (WCM) out of alignment with the global frame clock, in a received order and reading subframes from the random access memory is controlled by the read address control memory (RCM) in interchanged order and aligned to the global frame clock (See Fig. 4, Col. 5, lines 38-54).

A person of ordinary skill in the art would have been motivated to employ Colizzi et al. in Field et al. in order to obtain telecommunications synchronous time slot interchanging switch and to take advantage of providing a write address control memory (WCM) to store subframes to the random access memory, out of alignment with the global frame clock, in a received order and a read address Control Memory (RCM) to read subframes from the random access memory in interchanged order and aligned to the global frame clock in claims 1, 14 and 27.

The suggestion/motivation to do so would have been to use independent read and write memory access for time slot interchange where storing subframes to the random access memory is controlled by the write address control memory out of alignment with the global frame clock, in a received order and reading subframes from the random access memory is controlled by the read address control memory in interchanged order and

aligned to the global frame clock, as suggested by Colizzi et al. in Col. 5, lines 38-54. At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to combine Colizzi et al. with Field et al. to obtain the inventions specified in claims 1, 14 and 27.

Regarding claims 3-4, these claim have limitation that is similar to those of claim 1 wherein the global frame counter count is transformed in a random access memory, thus it is rejected with the same rationale applied against claim 1 above.

Regarding claims 5-6, these claim have limitation that is similar to those of claim 4 wherein the counter supports buffer lengths, thus it is rejected with the same rationale applied against claim 4 above.

Regarding claims 8-9, these claim have limitation that is similar to those of claim 1 wherein the interchange random access memory is noncontiguously addressed , thus it is rejected with the same rationale applied against claim 1 above.

Regarding claim 10, this claim has limitation that is similar to those of claim 9, thus it is rejected with the same rationale applied against claim 9 above.

6. Claims 1, 3-6, 8-13 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over US patent No. 6,778,529 ("Field et al.") in view of US patent No. 6,674,752 ("Colizzi et al.") and further in view of US patent No. 5,303,077 ("Buttle et al.").

Regarding claim 13, as discussed above, Colizzi et al. and Field et al. teach substantially all the claimed invention but did not disclose expressly the particular application involving limitations of

"at least one switch of at least one stage comprising a time-slot interchanger".

Buttle et al. teach an Optical switch and switching module, thus supports SONET STS-M frames, therefor wherein block 17 in dashed lines enclosing the time slot interchangers and the space switch 13 to indicate such a functional unit (at least one switch of at least one stage comprising a time-slot interchanger) (See Fig. 1, Col. 5, lines 30- 52).

A person of ordinary skill in the art would have been motivated to employ Buttle et al. in Colizzi et al. and Field et al. in order to obtain a time slot interchanger and to take advantage of the time slot interchangers and the space switch capable of the subframe interchange in claim 13.

The suggestion/motivation to do so would have been to accommodate a multi-stage digital cross connect switch and to take advantage of the time slot interchangers and the space switch capable of the subframe interchange, as suggested by Buttle et al in Col. 5, lines 30- 52. At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to combine Buttle et al. with Colizzi et al. and Field et al. to obtain the inventions specified in claim 13.

Regarding claims 11-12, these claim have limitation that is similar to those of claim 13 wherein SONET STS-M frames and the interchange random access memory

are supported, thus it is rejected with the same rationale applied against claim 13 above.

Allowable Subject Matter

7. Claims 14-16, 18-19 and 21-26 are allowed.

Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and if no art rejection can be applied.

Reason for indicating Allowable Subject Matter

8. The following is an examiner's statement of reasons for allowance:

The prior art along or in combination fails to teach or make obvious the following limitations:

"the interchanger random access memory comprises three buffers and the local frame counter includes a modulo 3 counter field which selects one of the three buffers" as recited in the *independent claim 14 and dependent claim 7.*

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Chang whose telephone number is (571) 272-3129. The examiner can normally be reached on Monday - Friday from 8 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RC

rkc

Richard Chang
Patent Examiner
Art Unit 2616

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SUPERVISORY PATENT EXAMINER